EU Enlargement: Impacts on CEE Wheat Markets

Nancy Cochrane[1]

Abstract: This article presents analysis of the potential impact of EU Enlargement on Central and East European (CEE) wheat markets. The analysis focuses on Poland, Hungary, and the Czech Republic, three of the CEE countries most likely to join the EU in the near future. ERS model results suggest that enlargement under Agenda 2000 assumptions may actually reduce wheat surpluses in the CEE countries, principally because wheat prices in Poland and the Czech Republic had risen above the Agenda 2000 wheat price in 1998, the base year used in the model. However, the ultimate impact on CEE wheat markets will also depend on developments in the livestock sectors, other field crops, and CEE land and labor markets.

Keywords: Poland, Hungary, Czech Republic, Central and Eastern Europe, wheat, grains, EU enlargement, Agenda 2000

Introduction

Negotiations between the European Union and five of the Central and East European (CEE) countries on the terms of eventual accession to the EU began in March 1998. Those five were Poland, Hungary, the Czech Republic, Slovenia, and Estonia. In November 1999 the EU agreed to open negotiations with five other CEE countries as well—Slovakia, Romania, Bulgaria, Latvia, and Lithuania.

Official statements still name 2002 as the target date for accession by the first five. Unofficial reports from both the EU and the CEE countries name 2006 as a more realistic date. Before they can accede to the EU, the CEE countries must revise their entire body of laws and regulations to conform to those of the EU, and many people doubt they will be able to do this by 2002. However, it is a near certainty that at least some of the CEE countries will join the EU within the next 10 years.

Prospects of EU enlargement raise some important questions for world wheat markets. Hungary and Romania are consistently surplus producers. The Czech Republic, Slovakia, and Bulgaria have been surplus producers in some years. Even Poland has exported wheat in some years. Since the beginning of the transition, wheat prices in most of the CEE countries have been generally below world levels and were substantially below the EU intervention price in most years.[2] Even the reduced wheat price under the EU's Agenda 2000 is above the market prices in most of the CEE countries. Principal exceptions were Poland and the Czech Republic, where wheat prices rose above the EU intervention price in 1998.

ERS analysis suggests that enlargement could actually lead to reduced wheat surpluses in the CEE countries.[3] Hungarian wheat prices have consistently been under the EU intervention prices and are also below the price proposed in Agenda 2000. Thus Hungary could expand production and exports after accession. Polish and Czech wheat prices, on the other hand, are above the Agenda 2000 prices, so that production could decline in these two countries after enlargement. In addition, without significant quality improvements, much of the CEE wheat production will not qualify for EU intervention, which could further depress output.

However, net wheat trade in an enlarged EU will also depend on developments in other field crops and the livestock sector. ERS model results show significant increases in CEE prices of corn and barley, leading producers to substitute these crops for wheat. In the livestock sector current CEE prices for all livestock products are 20 to 30 percent below those of the EU. This would suggest significant rises in CEE pork and poultry output, thus increasing demand for wheat as feed. But the need to meet high EU quality standards will raise CEE production costs, so that CEE livestock output may not increase as much as the price gaps would suggest. In this case the CEE countries could remain net wheat exporters even with reduced output.

[1] Agricultural economist, Europe, Africa and Middle East Branch, Market and Trade Economics Division, ERS.

[2] The EU intervention price is a market floor price that triggers intervention in order to support the market price. Farmers are able to sell their products to the intervention authorities at an annually adjusted intervention price. Products sold must meet minimum quality standards to be accepted into intervention stocks.

[3] Cochrane, Nancy. "Enlargement to the East." *The European Union's Common Agricultural Policy: Pressures for Change*, International Agriculture and Trade Report, Economic Research Service, U.S. Dept. Ag. WRS-99-2. October 1999.

EU's Agenda 2000 Calls for Limited Price Reductions

The EU's Agenda 2000, finalized in March 1999, is a set of reforms that aims to reduce the scope of EU intervention. The reforms were adopted with the goal of reducing EU budgetary expenditures and also as a first step in preparing for eventual enlargement. The reforms call for reductions in support prices for crops, oilseeds, and beef, and partial compensation to producers for the price declines through direct payments.

The key provisions of Agenda 2000 are:

- a 15-percent reduction in support prices of grains, phased in during 2000 and 2001, to be partially offset by increases in direct payments;
- a 33-percent reduction in direct payments to oilseed producers, implemented over 3 years, so that by 2002 the payment will be equal to the direct payment to grain producers;
- a 10-percent minimum set aside for cropland for 2000-06; and
- a 20-percent reduction in the support price for beef, to be phased in over 3 years and offset by direct payments.

Under this formula the EU intervention price for wheat, corn, barley, and rye would be set at 101 euro per ton in 2002.

For more details on Agenda 2000, see David R. Kelch, "EU's Agenda 2000 & Beyond," Agricultural Outlook*, Economic Research Service, U.S. Dept. Ag,. October 1999.*

A second consideration is demand side effects on enlargement on the CEE economies. ERS analysis suggests that in the initial years of accession, the sudden rise in consumer food prices will lead to a significant contraction in demand. However, accession will almost certainly attract new investment to the acceding CEE countries. In addition, the EU is already providing large amounts of assistance for infrastructure development, and this assistance will continue after enlargement. The inflow of investment and the EU structural assistance can be expected to have a significant, positive effect on GDP, leading to a strengthening of demand for grains and livestock products.

A final consideration is that accession will likely lead to important shifts in the primary factor (land, labor, and capital) markets in the CEE countries. The same inflow of investment and structural assistance could put upward pressure on wages and land prices, while making capital more readily available. These fundamental shifts could alter the eventual structure of CEE output.

Some Background: The Wheat Situation In the CEE Countries

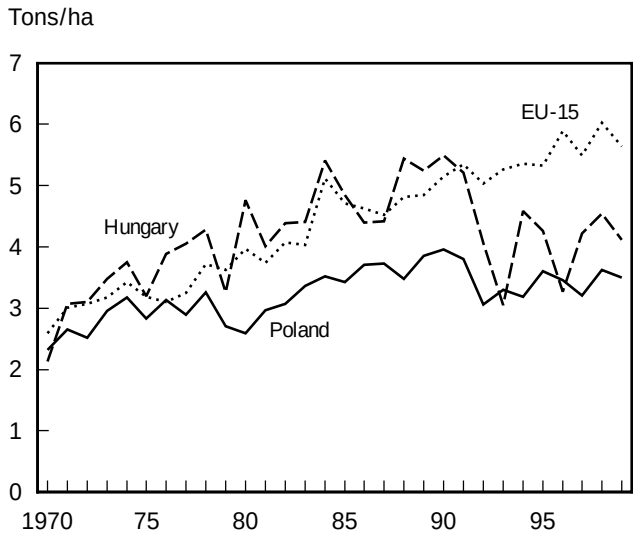
The largest wheat producers among the CEE countries are Poland, Romania, Hungary, the Czech Republic, and Bulgaria, in that order. Of those, Romania and Hungary are consistently surplus producers. The Czech Republic and Bulgaria have been small net exporters in most years, while Poland is usually a net importer. During the 1990's there have been relatively large shifts in production from year to year, brought about by variations in weather. The result has been considerable variation in the net trade status of these countries.

Market reform brought serious changes to the CEE wheat sectors. During the 1980's, the last years of the Communist period, yields showed a general upward trend. Yields in Hungary and the former Czechoslovakia were very close to EU yields (figure B-1). Even in Poland, where yields were lower because of the dominance of small, private farms, there was a slow upward trend in wheat yields. But this was mainly the result of generous government subsidies for fertilizers and other inputs. With the elimination of government subsidies and the sudden exposure to competition from the world market, producers experienced an abrupt rise in input prices and simultaneous drop in output prices. Producers responded by sharply curtailing their use of chemical inputs. As a result, yields fell precipitously and became much more variable after 1990.

Demand fell as well. Food demand for wheat has been relatively inelastic and has not changed much. However, feed

Figure B-1

Wheat yields in Poland, Hungary, and the EU-15



Source: Economic Research Service, USDA.

use has declined because of declining livestock inventories. As a result, the CEE countries together have maintained their net export position in most years since 1990.

Most of Eastern Europe has seen a sharp decline in area planted to wheat in the last 2 years (figure B-2). The most drastic decline occurred in Hungary, where area harvested in 1999 was 38 percent below that of 1998. Wheat area in Romania and Bulgaria has also declined significantly. These declines were a response in part to falling world prices and in part to poor weather conditions during sowing. Preliminary reports from several of the CEE countries suggest a slight increase in area planted during the fall of 1999 for crops to be harvested in 2000.

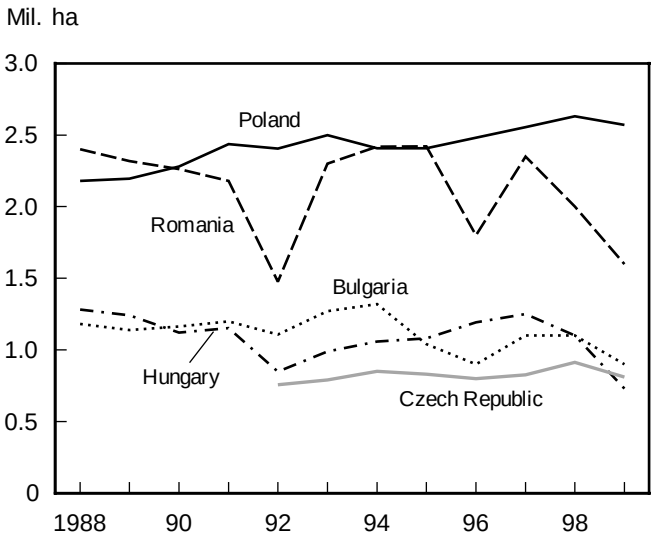
The principal exception is Poland, where wheat area has changed very little during the transition. In fact, there has been a slight upward trend. This trend is principally the result of extensive intervention on the part of Poland's Agricultural Market Agency (AMA). The AMA maintains a relatively high minimum price for wheat, which is supported through intervention purchasing and high import tariffs. Figure B-3 illustrates the extent to which Poland's intervention in the wheat market has insulated producers from the world market. Whereas Hungarian prices track the U.S. Gulf price fairly closely, Polish prices do not and at times have risen above the Gulf price. Polish prices have also occasionally exceeded the EU intervention price (figure B-4).

Model Results Show Increase in Net CEE Wheat Imports

ERS recently modeled the impact of Agenda 2000 plus EU enlargement on production and trade of grains, oilseeds, and livestock of the CEE countries and the enlarged EU.

Figure B-2

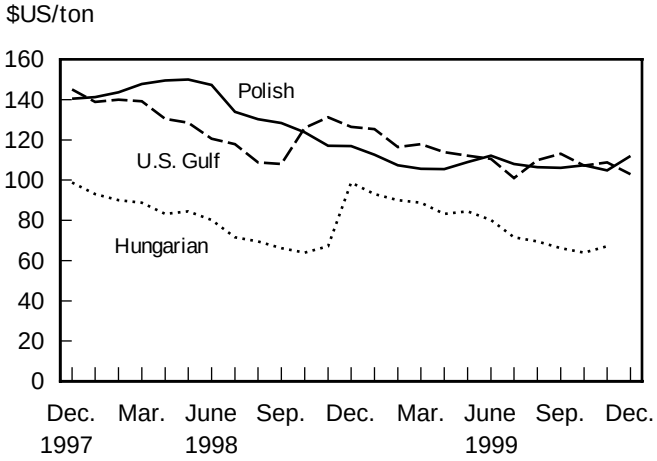
CEE wheat area during the transition



Source: Economic Research Service, USDA.

Figure B-3

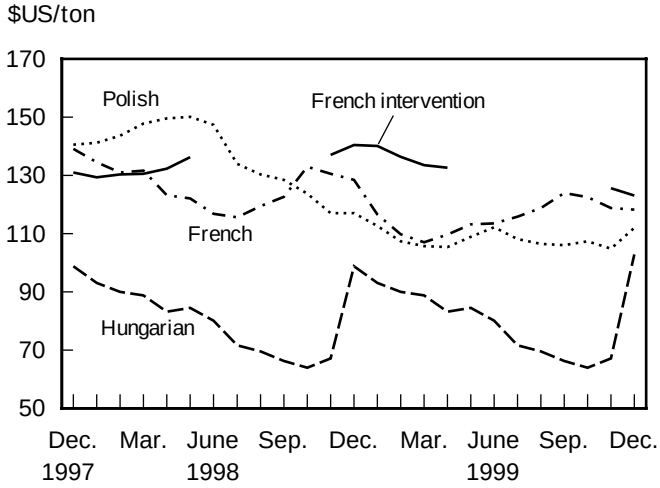
Wheat prices: Poland and Hungary compared with U.S. Gulf



Source: Economic Research Service, USDA and Polish and Hungarian Statistical Bulletins.

Figure B-4

Poland and Hungarian wheat producer prices compared with French



Source: Agra Europe, Polish and Hungarian Statistical Bulletins.

The CEE countries included in the analysis were Poland, Hungary, and the Czech Republic, since these are the most likely to accede to the EU in the coming decade. In the longer run, Romania will also be of interest. Romania has some of the richest soil in Eastern Europe and has the potential to generate very large surpluses with the right set of incentives. However, Romanian yields have been among the lowest in the region due to the country's fragmented farm structure and the slow pace of market reform. Precisely because of the slow pace of reform, it will be several years still before Romania will be a serious candidate for accession.

The analysis included two scenarios: Agenda 2000 without enlargement and Agenda 2000 with enlargement. In each case the 1999 USDA Baseline was used as the base scenario.[4] Results from Agenda 2000 without enlargement are shown in order to enable the reader to isolate the effects of enlargement from those of Agenda 2000 alone.

The key assumptions underlying the analysis were:

- the CEE countries will immediately adopt the EU's Common Agricultural Policy (CAP) in 2002, since that is still the official target year for accession, with no transition period. Thus in that year, CEE prices will adjust to the prices laid out in Agenda 2000. For the model run the Agenda 2000 prices were converted to U.S. dollars according to the exchange rate in effect in July 1999.
- CEE producers will receive the same compensation payments and will be subject to the same set-aside requirements as their counterparts in the EU-15.
- CEE producers will be subject to the EU dairy quota, which was fixed at milk production for each of the CEE countries in 2001, as projected in the 1999 USDA Baseline. The dairy quota also constrains CEE beef production, as more than half of the beef produced is a product of the dairy herd. The cap on beef output has implications for demand for wheat as feed.

To understand the results, it is helpful to compare the 1998 producer prices in the CEE countries and the EU-15 (table B-1). Three factors influence the model results:

- Despite wide gaps between CEE and EU wheat prices that existed in the early 1990's, there has been some convergence of CEE and EU prices in more recent years. In fact, in 1998, the base year of the model, wheat prices in Poland and the Czech Republic, thanks to their domestic intervention schemes, had risen above the Agenda 2000 wheat price for 2002.
- In all the CEE countries, prices of barley, corn, and other coarse grains were substantially lower than the price of wheat. The scenario thus brings greater price increases for coarse grains than for wheat.
- CEE livestock prices were substantially below those of the EU.

In the CEE countries, Agenda 2000 without enlargement brings declines in grain prices of 2 to 5 percent against the baseline in 2005 (table B-2). Under this scenario it is assumed that CEE price and border policies remain constant and world prices are fully transmitted to the domestic market. There are small declines in production and small increases in consumption, and the impact on net trade is marginal.

Enlargement, however, brings some dramatic changes in CEE grain prices, and the CEE response to those changes has important implications for the EU-18. Enlargement causes wheat prices to rise 43 percent over the baseline in Hungary, while wheat prices fall in Poland and the Czech Republic. Corn and barley prices fall in Poland, but not as much as wheat prices. Prices of corn and barley rise in Hungary and the Czech Republic, and in Hungary price increases for these two grains are greater than those for wheat. In response, producers in all three CEE countries switch from wheat to corn and barley. The result is that wheat output declines in Hungary, even with the price increase (table B-3).

Hungarian wheat exports rise despite the output decline, because domestic demand falls more than output (table B-4). However, Poland and the Czech Republic become large net wheat importers. Increased imports by Poland and the Czech Republic more that offset the rise in Hungarian exports. In 2005/2006 the three CEE countries switch from net exporters of 859,000 tons under the baseline to net importers of 1.7 million tons.

As a result, the EU-18 sees a 6-percent decline in its net wheat surplus, so that pressure on world wheat markets is actually reduced.

But There Are Important Caveats

One must interpret these results with some caution, however, as a number of factors not captured by the model could alter them. The four principal factors discussed below are uncertainties about the response of the livestock sector, quality issues, GDP growth that could come as a result of new investment and EU structural assistance, and the changes in CEE land, labor, and capital markets that could come about with accession.

Feed demand. An important reason for the dramatic reduction in net wheat exports under the enlargement scenario presented above is an increase in wheat feeding. According to these results, enlargement leads to significant rises in pork and poultry output and a consequent rise in demand for feed. Much of the increased feed demand is met through higher oilmeal imports. But livestock producers in all three of the CEE countries increase wheat feeding as well, as they substitute wheat for more expensive corn and barley.

There are a number of reasons, however, why pork and poultry output may not rise as much as the model results suggest. Livestock producers will have to comply with a formidable array of EU regulations regarding product quality and animal welfare, and compliance will raise production costs. Moreover, part of the gap between CEE and EU live-

[4] World Agricultural Outlook Board. *USDA Agricultural Baseline Projections to 2008*. Office of the Chief Economist, U.S. Department of Agriculture. Staff Report No. WAOB-99-1. February 1999.

Table B-1--1998 CEE prices compared with EU Agenda 2000 prices

Commodity	EU Agenda 2000 price 1/	Czech Rep.	Hungary	Poland
		Dollars/ton		
Wheat	113.47	119.33	72.28	130.19
Barley	113.47	104.29	63.88	110.81
Corn	113.47	104.29	65.28	95.50
Other coarse grains (rye)	113.47	104.29	65.28	95.50
Cattle, beef & veal	1,560.71	1,051.81	984.38	689.00
Hogs: live weight	1,292.90	1,037.30	1,058.52	975.00
Poultry (ready to cook)	1,182.60	797.22	909.77	989.00

1/ Prices to be in effect in 2002, under Agenda 2000. These were specified in Euro (101 euro per ton for grains) and converted to dollars according to the exchange rate in effect in July 1999, when the model runs were completed.

Table B-2--CEE price changes, 2005/2006: Agenda 2000 and enlargement

Commodity	Agenda 2000 without enlargement			EU enlargement		
	Poland	Czech Rep.	Hungary	Poland	Czech Rep.	Hungary
			Percent change from 1999 USDA Baseline			
Wheat	-5.00	-5.00	-5.07	-19.72	-1.52	42.56
Barley	-4.79	-4.19	-4.19	-7.58	10.94	64.52
Corn	-1.66	-1.66	-1.66	-5.95	12.21	62.83
Other coarse grains	-3.12	-2.16	-1.71	10.63	10.38	-6.22
Oilseeds	-2.49	-2.49	-2.49	-5.91	9.40	-4.12
Oilseed meal	-3.67	-3.67	-3.67	-10.28	17.26	-4.25
Beef & veal	2.37	2.37	2.37	106.50	48.34	43.95
Pork	-1.04	-1.04	-1.04	30.71	30.88	19.26
Poultry meat	-1.24	-1.24	-1.24	13.60	54.54	23.00

Table B-3--Hungary, Poland and Czech Republic: Changes in production and consumption of key products 2005/2006

Commodity	Agenda 2000 without enlargement		EU enlargement	
	Production	Consumption	Production	Consumption
		Percent changes from 1999 baseline		
Wheat	-1.79	1.89	-9.01	6.18
Coarse grains	-0.33	-0.30	3.48	-8.58
Barley	-1.32	0.69	1.93	-2.61
Corn	0.52	-1.89	5.93	-29.04
Other	-0.19	-0.18	3.21	-3.38
Oilseeds	-0.67	0.04	-17.60	-1.57
Oilseed meal	0.08	-0.49	-1.46	19.06
Beef & veal	0.91	-0.74	-0.34	-13.09
Pork	0.35	0.44	8.37	-1.90
Poultry	0.28	0.36	3.75	-1.89

stock prices is due to the lower quality of CEE animals, and the model does not account for quality differentials. For these reasons, CEE livestock producers may not respond so positively to the higher prices that will come with accession. If livestock production does not rise as much as projected, feed use and imports of wheat will be correspondingly lower than the model results suggest.

Quality. This is an issue for wheat as well as for livestock products, particularly in the case of Poland. Much of Poland's wheat crop is not of good milling quality and qualifies as feed wheat. Unless this situation changes, much of the Polish wheat crop will not be eligible for intervention after accession, and average wheat prices in Poland will be even lower than projected. In addition, once there are no border controls between Poland and its western neighbors, Polish millers will be able to buy Hungarian, French, or German wheat rather than Polish wheat. Thus, without significant efforts to raise wheat quality, Poland could experience an even greater contraction of its wheat sector after accession.

Demand side impacts of accession. The model did not incorporate any adjustment in CEE income. It was assumed that income projections assumed in the 1999 Baseline (growth of about 4 percent per year) would not be significantly altered in the short run by accession. But in the medium term, accession could have a strong positive impact on consumers' incomes. The enlarged EU will almost certainly attract new investment, and the EU is already providing generous support to infrastructure development in the

Table B-4--Hungary, Poland and Czech Republic: Changes in net trade of key products, 2005/2006

Commodity	Baseline	Agenda 2000 without enlargement	Agenda 2000 with enlargement
		1000 metric tons	
Wheat	838	203	-1,791
Coarse grains	-1,441	-1,445	2,059
Barley	-951	-1,105	-593
Corn	-217	-65	1,955
Other	-274	-275	696
Oilseeds	105	88	-277
Oilseed meal	-1,845	-1,829	-2,446
Beef & veal	69	83	171
Pork	249	247	572
Poultry	-19	-20	43

CEE countries. The result should be a significant increase in these countries' GDP. The direct impact of rising income on food use of wheat will not be large, because wheat demand is relatively inelastic. But there could be a rise in demand for livestock products, which in turn will stimulate greater feed demand.

Changes in primary factor markets. Accession will also bring some significant changes in the markets for land, labor, and capital, which could significantly affect the structure of CEE agriculture. CEE agriculture is now highly labor intensive because wage rates are low, and capital and other inputs are relatively expensive. Wages could rise significantly after accession. If labor is fully mobile throughout the enlarged EU, there will be a tendency towards convergence of EU and CEE wages. Moreover, the EU is offering several billion dollars of infrastructure support both before and after accession. These funds could generate more employment in the CEE countries, putting upward pressure on wages. Higher wages will draw much of the labor out of agriculture and should lead to consolidation of farms.

Land prices will also increase. Some CEE officials have expressed the desire to retain some restrictions on land purchases by citizens from other EU countries during a transition period. Eventually, however, all EU citizens will have to have the right to purchase CEE land. Higher land prices brought about by increased demand would affect the production of all field crops, leading to more input-intensive production. According to the model results, CEE grain yields remain substantially below those of the EU after accession, reflecting a continuation of current land-extensive production practices. With higher land prices, these practices will no longer be economically rational.

As labor and land become more expensive, producers will substitute more capital and material inputs, and the result could be significantly higher yields. Wheat yields in Hungary and the Czech Republic could approach their pre-1990 levels. With a higher level of investment, Polish wheat producers could raise the quality of their output.

Conclusions

It is clear that more research is needed before we can make any definitive statements about the impact of EU enlargement on the CEE wheat sectors. ERS model results suggest that contrary to earlier expectations, EU enlargement could bring about a decrease in exportable wheat surpluses. Other forces, not captured in the model, could mitigate those declines.